

**Claims**

What is claimed is:

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1. A method for configuring multiple displays associated with a computing system, the method comprises the steps of:

a) receiving display preferences regarding at least one of the multiple displays;

10 b) determining whether the display preferences can be fulfilled in observance of at least one of: configuration properties of the at least one of the multiple displays and configuration properties of the computing system; and

15 c) when the display preferences can be fulfilled, configuring the computing system and the at least one of the multiple displays in accordance with the display preferences.

20 2. The method of claim 1 further comprises receiving the display preferences from at least one of: a user interface of the computing system and an application running on the computing system.

25 3. The method of claim 1, wherein the display preferences include at least one of:

i) displaying an image on more than one of the multiple displays;

ii) displaying separate images on each of the multiple displays;

iii) displaying a portion of the image on one of the multiple displays and

displaying the image on another one of the multiple displays;

iv) providing different refresh rates for at least two of the multiple displays;

v) providing different resolutions for at least two of the multiple displays;

vi) selecting a particular one of the multiple displays to display a particular type of image; and

vii) displaying a first portion of the image on a first one of the multiple displays and displaying a second portion of the image on a second one of the multiple displays.

5 4. The method of claim 1, wherein the configuration properties of the at least one of the multiple displays includes at least one of: limitations of the at least one of the multiple displays, and wherein the configuration properties of the computing system includes at least one of: limitations of the computing system and operational rules of the computing system.

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5. The method of claim 1 further comprises:

when the display preferences cannot be fulfilled, determining whether a current configuration of the multiple displays to the computing system can be reconfigured such that the display preferences can be fulfilled while maintaining effective configuration of the current configuration; and

when the current configuration can be reconfigured, reconfiguring operable coupling of the multiple displays to the computing system such that the at least one of the multiple displays is configured in accordance with the display preferences.

20 6. The method of claim 1 further comprises providing an denial message when the display preferences cannot be fulfilled.

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7. The method of claim 1, wherein step (c) further comprises operably coupling a display controller of the computing system to the at least one of the multiple displays, wherein the display controller provides display data to the at least one of the multiple displays.

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8. The method of claim 7, wherein step (c) further comprises operably coupling the display controller to at least one of a plurality of screen memories, wherein each of the

plurality of the screen memories stores separate display data and wherein the display controller retrieves the display data from the at least one of the plurality of screen memories.

5 9. The method of claim 8, wherein step (c) further comprises operably coupling the display controller to at least one of a plurality of display drivers, wherein each of the plurality of display drivers writes the separate display data to the plurality of screen memories.

10 10. The method of claim 1, wherein step (c) further comprises operably coupling a first display controller of the computing system to a first display of the at least one of the multiple displays and operably coupling a second display controller of the computing system to a second display of the least one of the multiple displays.

15 11. The method of claim 10 further comprises operably coupling the first display controller to a third display of the at least one of the multiple displays.

20 12. The method of claim 1, wherein step (c) further comprises operably coupling a first display controller of the computing system to a first display of the at least one of the multiple displays, operably coupling a second display controller of the computing system to a second display of the at least one of the multiple displays, and operably coupling the first and second display controllers to a screen memory.

25 13. The method of claim 1 further comprises operably coupling at least two of the multiple displays to one of a plurality of screen memories.

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14. A video graphics processing circuit comprises:

a plurality of display controllers;

5 memory, wherein at least a portion of the memory is screen memory;

coupling module operably coupled to the plurality of displays and the screen memory;

and

10 a coupling controller operably coupled to receive display preferences and to determine whether the display preferences can be fulfilled in observance of configuration properties, wherein, when the display preferences can be fulfilled, the coupling controller provides configuration requirements to the coupling module, wherein the coupling module, based on the configuration requirements, operably couples at least one of the plurality of display controllers with at least a portion of the screen memory and with at least one display, and wherein the at least one of the plurality of display controllers retrieves display data from the at least a portion of the screen memory and provides the display data to the at least one display.

15 20 15. The video graphics processing circuit of claim 14, wherein the screen memory comprises a plurality of screen memory portions, wherein each of the plurality of screen memory portions stores separate display data.

25 16. The video graphics processing circuit of claim 15 further comprises a plurality of display drivers, wherein, when coupled via the coupling module to one of the plurality of screen memory portions, a display driver of the plurality of display drivers writes the separate display data to the one of the plurality of screen memory portions.

30 17. The video graphics processing circuit of claim 16 further comprises a graphics engine operably coupled, via the coupling module, to at least one of the plurality of display controllers and at least one of the display drivers.

18. The video graphics processing circuit of claim 14 further comprises a user interface that is operably coupled to the coupling controller and to receive the display preferences from a user.

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19. The video graphics processing circuit of claim 14, wherein the memory further comprises properties memory that stores configuration properties of the plurality of display controllers and the at least one display, wherein the configuration properties include at least one of: limitations of the plurality of display controllers and the at least one display and operational rules of the plurality of display controllers and the at least one display.

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20. The video graphics processing circuit of claim 14, wherein the coupling controller provides reconfiguration requirements to the coupling module when the display preferences cannot be fulfilled but a current configuration of the plurality of display controllers to the at least one display can be reconfigured such that the display preferences can be fulfilled while maintaining effective configuration of the current configuration.

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21. The video graphics processing circuit of claim 14, wherein the configuration requirements cause the coupling module to operably coupling a first display controller of the plurality of display controllers to a first display of the at least one display and operably coupling a second display controller of the plurality of display controllers to a second display of the least one display.

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22. The video graphics processing circuit of claim 21, wherein the configuration requirements cause the coupling module to operably coupling the first display controller to a third display of the at least one display.

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23. The video graphics processing circuit of claim 14, wherein the configuration requirements cause the coupling module to operably coupling a first display controller of

the plurality of display controllers to a first display of the at least one display, operably coupling a second display controller of the plurality of display controllers to a second display of the at least one display, and operably coupling the first and second display controllers to the screen memory.

24. A video graphics processing circuit comprises:

a processing unit; and

5 memory operably coupled to the processing unit, wherein the memory stores  
programming instructions that, when executed by the processing unit, cause the  
processing unit to (a) receive display preferences regarding at least one of a multiple  
displays; (b) determine whether the display preferences can be fulfilled in observance of  
at least one of: configuration properties of the at least one of the multiple displays and  
10 configuration properties of a computing system; and (c) configure the computing system  
and the at least one of the multiple displays in accordance with the display preferences  
when the display preferences can be fulfilled.

25. The video graphics processing circuit of claim 24, wherein the memory further comprises programming instructions that cause the processing unit to:

determine whether a current configuration of the multiple displays to the computing system can be reconfigured such that the display preferences can be fulfilled while maintaining effective configuration of the current configuration when the display

20 preferences cannot be fulfilled; and

reconfigure operable coupling of the multiple displays to the computing system such that the at least one of the multiple displays is configured in accordance with the display preferences when the current configuration can be reconfigured.

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26. The video graphics processing circuit of claim 24, wherein the memory further comprises programming instructions that cause the processing unit to operably couple a display controller of the computing system to the at least one of the multiple displays, wherein the display controller provides display data to the at least one of the multiple displays.

27. The video graphics processing circuit of claim 26, wherein the memory further comprises programming instructions that cause the processing unit to operably couple the display controller to at least one of a plurality of screen memories, wherein each of the plurality of the screen memories stores separate display data and wherein the display controller retrieves the display data from the at least one of the plurality of screen memories.

28. The video graphics processing circuit of claim 27, wherein the memory further comprises programming instructions that cause the processing unit to operably couple the display controller to at least one of a plurality of display drivers, wherein each of the plurality of display drivers writes the separate display data to the plurality of screen memories.

29. ~~The video graphics processing circuit of claim 24, wherein the memory further comprises programming instructions that cause the processing unit to operably couple a first display controller of the computing system to a first display of the at least one of the multiple displays and operably coupling a second display controller of the computing system to a second display of the least one of the multiple displays.~~

30. The video graphics processing circuit of claim 29, wherein the memory further comprises programming instructions that cause the processing unit to operably couple the first display controller to a third display of the at least one of the multiple displays.

31. ~~The video graphics processing circuit of claim 24, wherein the memory further comprises programming instructions that cause the processing unit to operably couple a first display controller of the computing system to a first display of the at least one of the multiple displays, operably coupling a second display controller of the computing system to a second display of the at least one of the multiple displays, and operably coupling the first and second display controllers to a screen memory~~

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32. The ~~video graphics processing circuit of claim 31, wherein the memory further comprises programming instructions that cause the processing unit to operably couple at least two of the multiple displays to one of a plurality of screen memories.~~

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33. A digital storage medium for storing programming instructions that, when executed by a processing unit, cause the processing unit to configure multiple displays associated with a computing system, the digital storage medium comprises:

5 first means for storing programming instructions that cause the processing unit to receive display preferences regarding at least one of the multiple displays;

second means for storing programming instructions that cause the processing unit to determine whether the display preferences can be fulfilled in observance of at least one  
10 of: configuration properties of the at least one of the multiple displays and configuration properties of the computing system; and

15 third means for storing programming instructions that cause the processing unit to configure the computing system and the at least one of the multiple displays in accordance with the display preferences when the display preferences can be fulfilled.

34. The digital storage medium of claim 33 further comprises means for storing programming instructions that cause the processing unit to:

20 determine whether a current configuration of the multiple displays to the computing system can be reconfigured such that the display preferences can be fulfilled while maintaining effective configuration of the current configuration when the display preferences cannot be fulfilled; and

25 reconfigure operable coupling of the multiple displays to the computing system such that the at least one of the multiple displays is configured in accordance with the display preferences when the current configuration can be reconfigured.

30 35. The digital storage medium of claim 33 further comprises means for storing programming instructions that cause the processing unit to operably couple a display

controller of the computing system to the at least one of the multiple displays, wherein the display controller provides display data to the at least one of the multiple displays.

36. The digital storage medium of claim 35 further comprises means for storing 5 programming instructions that cause the processing unit to operably couple the display controller to at least one of a plurality of screen memories, wherein each of the plurality of the screen memories stores separate display data and wherein the display controller retrieves the display data from the at least one of the plurality of screen memories.

10 37. The digital storage medium of claim 33 further comprises means for storing programming instructions that cause the processing unit to operably couple the display controller to at least one of a plurality of display drivers, wherein each of the plurality of display drivers writes the separate display data to the plurality of screen memories.

15 38. The digital storage medium of claim 33 further comprises means for storing 20 programming instructions that cause the processing unit to operably couple a first display controller of the computing system to a first display of the at least one of the multiple displays and operably coupling a second display controller of the computing system to a second display of the least one of the multiple displays.

25 39. The digital storage medium of claim 38 further comprises means for storing 25 programming instructions that cause the processing unit to operably couple the first display controller to a third display of the at least one of the multiple displays.

40. The digital storage medium of claim 33 further comprises means for storing 30 programming instructions that cause the processing unit to operably couple a first display controller of the computing system to a first display of the at least one of the multiple displays, operably coupling a second display controller of the computing system to a second display of the at least one of the multiple displays, and operably coupling the first and second display controllers to a screen memory.

41. The digital storage medium of claim 40 further comprises means for storing  
programming instructions that cause the processing unit to operably couple at least two of  
the multiple displays to one of a plurality of screen memories.

